

APPENDIX A
STATE AGENCY COMMENTS



State of North Carolina
Department of Environment, Health, and Natural Resources

512 North Salisbury Street • Raleigh, North Carolina 27611

James G. Martin, Governor

William W. Cobey, Jr., Secretary

September 18, 1992

Mr. Curtis Clark, Director
Government Performance Audit Committee
Legislative Office Building
300 North Salisbury Street
Raleigh, NC 27603-5925

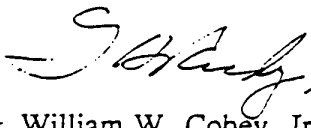
Dear Mr. Clark:

My staff and I have reviewed the findings and recommendations resulting from KPMG Peat Marwick's review of our department's information technology and telecommunications operations. We would like to compliment you and the Peat Marwick representatives involved in this review for a thorough, balanced, and professional assessment. In the course of our review, we found only one factual discrepancy in the Peat Marwick findings. That is, our Division of Computer Systems has an authorized staff of 23 persons, not 24 as reported on page 4.2 of the findings.

Obviously, it will take a significant amount of time, effort, manpower, and money to address the full array of issues raised by this report. During the past year, our Automated Systems Review Board (ASRB) has identified and discussed some of the same issues pointed out by Peat Marwick. Clearly it will take several years and several budget cycles to correct many of the discrepancies noted. However, to the degree that these issues have been identified to our ASRB and senior management, we have begun to address the problems. Specifically, our proposed Expansion Budget Request will include 21 positions for the Division of Computer Systems. Several of the requested positions are designed to address the issues raised on pages 4.2 and 4.3 and in Findings No. 61, 63, and 65 of your Agency Specific Issues.

Again, let me thank you and Peat Marwick for the work you have done on our behalf. We believe your independent assessments of the status of technology in our department will be a significant assistance as we move to address these issues.

Sincerely,


for William W. Cobey, Jr.

WWC,Jr/MLH



North Carolina Department of Human Resources

101 Blair Drive • Raleigh, North Carolina 27603 • Courier 56-20-11

James G. Martin, Governor

David T. Flaherty, Secretary

September 30, 1992

Curtis Clark, Director
Government Performance Audit Committee
Room 612
Legislative Office Building
300 North Salisbury Street
Raleigh, North Carolina 27603-5925

Dear Mr. Clark:

Enclosed are the Department of Human Resources' responses to the findings and recommendations (Items 71 through 79) of KPMG Peat Marwick's Phase I Performance Audit of the Information Technology and Telecommunication System. I appreciate this opportunity to update situations that have changed since the audit staff's initial field work and to clarify other situations not fully covered in their report.

If you have any questions or comments related to the Department's responses, we would be pleased to discuss them with you in detail.

Sincerely,


David T. Flaherty

GPC71-79:RD

Enclosure

cc: Keith Clark
Jim Edgerton
Joyce Johnson
Bonnie Allred
Barry Blick
Donna Gregory

A.2

Finding 71 - DIS's programmers and analysts require additional training in FOUNDATION CASE tools.

Recommendation - Proceed with the comprehensive training program in CASE tools.

DHR Response -

As noted in the findings, DIS developed a plan for acquiring appropriate training in CASE tools and has proceeded with implementation of the plan. The training was scheduled as part of acquisition of the DIS LAN and individual workstations. Since the time of the audit's field work, DIS has completed installation of its LAN. As planned, DIS programmers and analysts were trained in those areas recommended: microcomputer and LAN fundamentals, DOS, Windows, METHOD/1, and DESIGN/1. Moreover, 100% of DIS staff have been trained in the DIS-standard office software (Word and Excel). The Training Services Section of SIPS arranged all of this training and conducted some of it.

DIS developed internally a customized one-day course that combines instruction on the use of DESIGN/1 with use of the DHR Production Systems Support Methodology (adapted from METHOD/1). Twenty-one DIS project supervisors and systems analysts completed this hands-on class during April-June 1992. Due to the success of this course, the Division has adopted the same approach to Microsoft Project training. DIS will present a course by January 1993 for all staff with project management responsibilities.

In addition to using the LAN for design, documentation, and project management, DIS is currently conducting a project to define the most appropriate microcomputer-based programming software "tool kit" for developing and supporting DHR's complex variety of mainframe application systems. Based on the recommendations of the project team, DIS will acquire additional software development tools to complement the components of the FOUNDATION tools it already uses. DIS development staff will receive extensive training in the new tools before they are required to use them, and continuing support once they begin to use them.

Finding 72 - Many of the applications at DHR are very old, unstructured, poorly documented and not implemented in the current version of the programming language.

Recommendation - Investigate re-engineering production COBOL systems to improve maintainability.

DHR Response -

While it is true that old, unstructured systems are more difficult to maintain and modify, that is not the primary problem with DHR's old systems. The more critical deficiency is that several of the large delivery support systems are approaching *functional* obsolescence; i.e., they are no longer meeting the needs of their users. In addition, these systems were built independently of one another with little or no functional integration, and information sharing on common clients is difficult at best and impossible in most instances. When a system does not meet the needs of its users, it is usually more cost-effective to replace it than to re-engineer its technical structure.

In January, 1992, the Human Services Automation Policy and Planning Council was formed to address the many automation issues facing the Department and all one hundred NC counties. The Council's Strategic Automation Planning subcommittee is charged with creating strategic and tactical automation plans to achieve local and state automation goals. Part of this effort is to identify current DHR system replacement/integration candidates and to build a prioritized, multi-year implementation plan.

At the same time, the Division of Information Systems has adopted COBOL II programming language and relational database technology as standards for all new in-house developed programs and as specifications for packaged software and application transfers whenever possible. In addition, DIS has adopted a strategy for converting COBOL programs to COBOL II as routine modifications are made.

DHR will examine existing systems that are functionally sound and are not selected by the Council for early replacement or rewrite. We will identify within those systems complex programs that are especially difficult and costly to maintain, and will consider applying automated restructuring tools to upgrade those programs.

Finding 73 - DHR does not have adequate control over its report distribution process.

Recommendation - Implement controls over distribution of reports

DHR Response -

DIS maintains documentation for production job streams according to standards specified in Volume IV, Section II of the Division's Specification of Responsibilities and Organization (SRO). Complete documentation books are maintained, by application system, in both the DIS Library and the DIS Scheduling and Control Unit. In addition, the DIS Computer Services Section does have complete and detailed output distribution instructions stored on-line. These instructions are maintained by the Scheduling and Control unit and are available to the Benefit Processing staff via two terminals in the DIS Operations Center. Correct distribution of the reports no longer depends on the knowledge of the operators; it is well documented in this system. This system was completed in early fourth quarter of FY 91-92; concluding a 15 month effort.

The audit report is correct in its finding that not all reports have a unique report number for identification. However, new in-house designed reports have had these unique identification numbers (using a standard naming convention) since April 1991. No attempt has been made, nor is there a plan in place, to bring the 800 or so pre-existing reports into compliance with this standard.

Absence of a standard identification number on older reports does lead to some level of difficulty identifying reports, by both DIS and operating division staff. Although conversion of all DHR reports to the new standard would be beneficial, department management must weigh this effort against other automation initiatives which compete for limited funding and staff resources.

Finding 74 - DHR spends significant amounts of money to generate paper reports.

Recommendation - Study possibilities of eliminating some reports and providing counties on-line access to remaining reports.

DHR Response -

A. Elimination of reports.

In late 1990, the Department requested that Office of State Budget and Management (OSBM) study the ability of the Department to keep up with the increasing demand for printing and distributing computer generated reports. The study was completed in November of 1992. OSBM looked only at the reports printed by DIS and SIPS for the divisions of Social Services and Medical Assistance (a total of 802 non-duplicative reports), the bulk of the Department's computer generated reports. While OSBM made a number of helpful recommendations on how to reduce the number of reports, OSBM did not identify which reports should be eliminated. In January 1992, based on the findings of the OSBM Study, the Department requested that all DHR divisions review all of their reports with the goal of reducing their printed reports by at least 20%.

The Department will follow up on this request and continue to urge divisions to reduce the number of reports that require printing. Since 208 of the 802 reports identified in the OSBM study are distributed to counties, DSS and DMA will need to work with their county agency counterparts in order to reduce further the number of printed reports generated by the Department each month. Only the agencies that "own" and use the information can decide which printed reports should be kept and which should be eliminated.

B. On-line access to reports.

DIS is planning to put all reports on-line as part of the implementation of the use of the RMDS Report Distribution software that is available on the State Computer Center system. This software automates the sorting and merging of report pages by recipient before the reports are printed. The primary reason for introducing this software is to reduce greatly the manual effort required to bundle report pages for delivery to the state and county social services offices. Having the reports on-line for the RMDS Report Distribution system also makes all reports available to state and county users via the statewide area network.

Printed reports will still be necessary. Not every state staff member has easy access to a computer terminal. Twenty five percent of the Department's printed reports are distributed to counties. Not every county social services employee has easy access to a terminal. Until this situation changes, printed reports will still be needed. Thus, implementation of on-line access is technologically feasible, but its impact will be limited, unless report users have easy access to equipment.

Finding 75 - Production control is fragmented within DIS.

Recommendation - Centralize all DIS production control and scheduling under the computer operations group.

DHR Response -

This finding is mis-stated it should read : Production control is fragmented within *DHR*.

Over ninety percent of the jobs scheduled by the DIS Scheduling and Control Unit are for the Division of Social Services. At one time, the unit belonged to Social Services and scheduled only Social Services jobs. Today, the unit schedules a few jobs for other DHR agencies. The DIS Scheduling and Control unit has had cost rates developed on a cost-per-job-submitted basis for FY 92/93 in order to facilitate this unit performing production control functions for divisions other than DSS. The new Accounts Receivable Billing System (ARBS), which is being implemented in mental health institutions across the State, for example, will be assigned to the DIS Scheduling and Control unit. Other divisions now can also take advantage of this unit's services.

The recommendation to centralize all production runs under DIS may not be appropriate since in many cases the production runs can be more effectively and economically controlled directly by the division using the output. Forcing these production runs through DIS would only add an unnecessary step to the process. The Department will do a cost/benefit analysis to see if it is reasonable to move additional production control and scheduling activities to the unit. Centralizing all production control would require additional staff for the DIS Scheduling and Control Unit. It should be noted that no other DHR division has a full time position devoted to scheduling and control; therefore, removing this function from any of the divisions would not create positions to transfer to the DIS Scheduling and Control Unit. The additional personnel may be more expensive than permitting a more distributed approach.

Finding 76 - DHR production job streams are undocumented and require too much manual intervention by the operators.

Recommendation - Re-engineer production job streams and automate scheduling.

DHR Response -

The structure of job streams for many DHR systems is directly related to the age of the systems and the state of the technology at the time the systems were developed. (See Finding 72 regarding re-engineering old systems.) The same factors that determine whether it is more cost effective to re-engineer or replace a system also influence cost effectiveness of restructuring the batch job streams.

Thirty (30) percent of DHR's batch jobs run under control of ZEKE, the automated job scheduler used by SIPS, as stated in the audit report. Using ZEKE is the stated direction of DHR for new systems. The new Accounts Receivable Billing Systems for mental health institutions, for example, is being implemented using ZEKE. In addition, DIS has formed a work group to identify techniques for, and limitations upon, conversion of existing job streams to automated scheduler control. The results of their study will give a basis for determining, system by system, the cost effectiveness of restructuring job streams.

Many of our current production job streams cannot run under ZEKE without significant restructuring. Many of our production job streams are very complex and require daily modification because a different sequence of programs is run almost daily for some of the systems. The effort to restructure these job streams would be significant, and the costs might outweigh the benefits. Department management will have to weigh this effort against other automation initiatives which compete for limited funding and staff resources. DIS intends to study these issues further, as it reviews and updates its automation standards.

Documentation available for set up and control of production job streams is currently contained in the in-stream comments within Job Control Language (JCL) statements in the programs themselves. DIS application support staff who are on call have additional system-specific documentation for restart and recovery procedures. As part of the current DIS project to update its standards and procedures, consistent and appropriate job documentation standards will be developed. The standards will then be used for all new production job streams created.

Finding 77 - The check processing procedures at DHR require excessive movement of the checks.

Recommendation - Adjust check handling practices to minimize the movement of negotiable instruments.

DHR Response -

The finding and recommendation are based in part on some erroneous information. The inventory of DSS checks is not maintained in a warehouse separate from the DIS Operations Center. The checks are stored in a separate, locked room of the same facility. After checks are printed, they are transported to the DSS Fiscal Office located in the Albemarle building for review. Duplicate checks are pulled and voided. The unsigned checks are transported back to the DIS Operations Center where they are then signed.

The checks are printed based on information entered locally by county DSS workers. An average of approximately 700 duplicate checks are written a month. It is vital that duplicate payments be identified and stopped before mailing to avoid time consuming efforts to recoup funds and to insure proper disbursement of Public Assistance funds to the citizens of North Carolina. The reports and information necessary for the DSS Fiscal Office to perform this verification process for Public Assistance checks, as well as for other programs of DSS, are located in the Albemarle Building. It is not feasible for the Fiscal Staff to maintain a separate office and files at both the Albemarle Building and the DIS Operations Center. Due to the special courier deliveries made of the unsigned checks in which the unsigned checks are delivered directly to the responsible person in the DSS Fiscal Office, we do not feel that security is compromised.

We will review the possible implementation of sign-off logs when the control of the checks is passed between the DHR units.

Finding 78 - DIS's information systems policies, procedures, and standards are out of date.

Recommendation - Accelerate overhaul of the SRO.

DHR Response -

During the past three years, DIS has worked to improve its systems development process in many ways. Three major interdependent components of an improved environment have been addressed: systems development and support methodology; a viable quality assurance program; and systems development standards. Based upon evaluation of organizational needs, DIS management determined that additional or revised standards would be no more effective than existing standards without first implementing a methodology and a QA program. DIS management emphasis, therefore, has been on implementing these programs rather than completely overhauling the Specification of Responsibility and Organization (SRO).

The detailed content of the audit finding correctly recognizes, however, that DIS has updated various sections of the SRO. In addition to conducting an extensive staff survey to determine the value and use of the SRO, DIS has replaced the old life cycle methodology portion of the SRO upon adoption and customization of Method/1; revamped the QA Review portion of the SRO; and created a new section containing Technical Environment Policies. As new policies and standards have been developed and approved by the DIS quality initiative steering committee, they *have been included* in appropriate sections of the SRO. We believe that the SRO reviewed by the audit team may not have been the current version of the document.

The DIS SRO is a comprehensive policies, standards, and procedures document covering the entire scope of the Division's activities. It is a constantly evolving document, and, as the Division changes, it periodically needs a major overhaul (codification). The Division will begin this process of codification by the end of 1992. In the meantime, the Division:

- has drafted revised administrative procedures that are under review;
- has identified 31 application system standards to be developed, has drafted 18, and is reviewing them;
- has current versions of the manuals available on-line at SIPS, and is moving them to the DIS LAN for easier use.

The Division's codification project will:

- remove or revise all outdated sections;
- complete movement of the SRO manuals to the DIS LAN environment;
- revise the organization and structure of the manuals to make them easier to use;
- develop an easily used indexing mechanism to help staff find what they need;
- continue the ongoing process of standards identification, development and refinement.